Settlements and Billing

Configuration Guide: GMC - Inter-Scheduling Coordinator Trade Transaction Fee

**CC 4512**

Version 5.2

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# Purpose of Document

The purpose of this document is to capture the requirements and design specification for a SaMC Charge Code in one document.

# Introduction

## Background

The Grid Management Charge Codes (GMC) are comprised of daily and monthly charges which are assessed to participating Scheduling Coordinators (SC) for the purpose of recovering all of the CAISO’s direct and indirect operating costs. The costs are comprised of CAISO Operating Costs, CAISO Other Costs and Revenues, CAISO Financial Costs, CAISO Operating Reserve Credit, and CAISO Out-of-Pocket Capital and Project Costs.

Through the GMC stakeholder process, the CAISO has identified three cost service based Charge Codes, a fixed Transmission Ownership Rights Charge Code, as well as four transactional and administrative Charge Codes. The cost service Charge Codes consist of (1) Market Services Charge; (2) System Operations Charge; and (3) CRR Services Charge. The four transactional fee consist of (1) Bid Segment Fee; (2) CRR Transaction Fee; (3) Inter-Scheduling Coordinator Trade Transaction Fee; and (4) Scheduling Coordinator ID Charge.

## Description

GMC Inter-Scheduling Coordinator Trade (IST) Transaction Fee contains the activities associated with accepting, processing, and validating Day-Ahead and Fifteen Minute Market (FMM) IST schedules. A Schedule in this context is any IST submitted to and accepted by the ISO. The costs in this sub-function relate to providing the infrastructure and to processing these trades.

# Charge Code Requirements

## Business Rules

| Bus Req ID | Business Rule |
| --- | --- |
| 1.0 | Where input Bill Determinants are not daily, or activity across a Bill Period is required to determine the appropriate Settlement Amount, the Charge Code shall be calculated on a monthly basis and output on the last Settlement Statement for a Trading Month. |
| 1.1 | Where input Bill Determinants are daily, the Charge Code shall be calculated and output on a daily basis. |
| 2.0 | This Charge Code will be billed and invoiced in accordance with the CAISO Payments Calendar. |
| 3.0 | For adjustments to the Charge Code that cannot be accomplished by correction of upstream data inputs/recalculation or operator override Pass Through Bill Charge logic will be applied. |
| 4.0 | The billing determinant selected for Forward Scheduling IST charge is calculated using the sum of each Scheduling Coordinator’s total IST count, which includes DA Valid Energy Inter SC Trades, IFM Obligation Inter SC Trades, FMM Valid Energy Inter SC Trades, and Valid AS Inter SC Trades. |

## 

## Predecessor Charge Codes

| Charge Code/ Pre-calc Name |
| --- |
| None |

## Successor Charge Codes

| Charge Code/ Pre-calc Name |
| --- |
| **CC 4513** GMC - Forward Scheduling Inter-SC Trades-PGAB |

## Inputs – External Systems

| Row # | Variable Name | Description |
| --- | --- | --- |
| 1 | GMCForwardSchedulingServicesInterSCTradesRate | FERC approved GMC rate from settlements standing data based on applicable start and end dates. |
| 2 | BAHrlyTradePlaceDAFromInterSCTradeQty BxswZKDmdh | BA Hrly Trade Place Day Ahead From Inter-Sc Trade Qty attributable to BA B during Trading Hour h at Trade Place Z and IST Type w |
| 3 | BAHrlyTradePlaceDAToInterSCTradeQty BxswZKDmdh | BA Hrly Trade Place Day Ahead To Inter-SC Trade Qty attributable to BA B during Trading Hour h at Trade Place Z and IST Type w. |
| 4 | BAHrlyTradePlaceFMMFromInterSCTradeQty BxswZKDmdh | BA Hrly Trade Place FMM From Inter-SC Trade Qty attributable to Business Associate ID B, in Trading Hour h, at Trade Place Z and IST Type w |
| 5 | BAHrlyTradePlaceFMMToInterSCTradeQty BxswZKDmdh | BA Hrly Trade Place FMM To Inter-SC Trade Qty attributable to Business Associate ID B, in Trading Hour h, at Trade Place Z and IST Type w |
| 6 | IFMLoadUpliftObligationsInterSCTradeFrom Bsmdh | IFM Load Uplift Obligation IST (bought) of Business Associate B. |
| 7 | IFMLoadUpliftObligationsInterSCTradeTo Bsmdh | IFM Load Uplift Obligation IST (sell) of Business Associate B. |
| 8 | PTBChargeAdjustmentGMCForwardSchedulingServicesInterSCTradesSettlementAmount BJmd | PTB adjustment variable for this Charge Code, amount per SC ($) |
| 9 | ForwardSchedulingISTException B | Flag indicating any exceptions to the GMC calculation, where an exception is represented by “1”. |
| 10 | NonSpinToTradeMW BQ’smdh | Non-Spinning Reserve (inter-SC) Trade MW Quantity bought by Business Associate B, Inter-SC Trade s. (MW) |
| 11 | NonSpinFromTradeMW BQ’smdh | Non-Spinning Reserve (inter-SC) Trade MW Quantity sold by Business Associate B, Inter-SC Trade s. (MW) |
| 12 | SpinToTradeMW BQ’smdh | Spinning Reserve (inter-SC) Trade MW Quantity bought by Business Associate B, Inter-SC Trade s. (MW) |
| 13 | SpinFromTradeMW BQ’smdh | Spinning Reserve (inter-SC) Trade MW Quantity sold by Business Associate B, Inter-SC Trade s. (MW) |
| 14 | RegDownToTradeMW BQ’smdh | Regulation Down (inter-SC) Trade MW Quantity bought by Business Associate B, Inter-SC Trade s. (MW) |
| 15 | RegDownFromTradeMW BQ’smdh | Regulation Down (inter-SC) Trade MW Quantity sold by Business Associate B, Inter-SC Trade s. (MW) |
| 16 | RegUpToTradeMW BQ’smdh | Regulation Up (inter-SC) Trade MW Quantity bought by Business Associate B, Inter-SC Trade s. (MW) |
| 17 | RegUpFromTradeMW BQ’smdh | Regulation Up (inter-SC) Trade MW Quantity sold by Business Associate B, Inter-SC Trade s. (MW) |

## Inputs - Predecessor Charge Codes or Pre-calculations

| Row # | Variable Name | Predecessor Charge Code/  Pre-calc Configuration |
| --- | --- | --- |
|  | None |  |

## CAISO Formula

The CAISO formula for the Forward Scheduling Inter-SC Trades Grid Management Charge for each Scheduling Coordinator is as follows:

#### 3.8.1

GMCForwardSchedulingServicesInterSCTradesSettlementAmount Bmd= TotalISTScheduleCount Bmd \* GMCForwardSchedulingServicesInterSCTradesRate

If ForwardSchedulingISTException B= 1

Then

TotalISTScheduleCount Bmd = 0

Else

TotalISTScheduleCount Bmd  =  (DAValidEnergyInterSCTradeCount Bmdh + FMMValidEnergyInterSCTradeCount Bmdh  + IFMObligationInterSCTradeCount Bmdh + BAValidASInterSCTradeCount Bmdh )

Where

#### DAValidEnergyInterSCTradeCount Bmdh =

(BAHrlyTradePlaceDAToInterSCTradeQtyCount Bmdh+

BAHrlyTradePlaceDAFromInterSCTradeQtyCount Bmdh)

###### Where BAHrlyTradePlaceDAFromInterSCTradeQtyCount

#### BAHrlyTradePlaceDAFromInterSCTradeQtyCount Bmdh = (

#### IF

#### BAHrlyTradePlaceDAFromInterSCTradeQty BxswZKDmdh= 0

THEN

0

ELSE

1

Note: Each unique BAHrlyTradePlaceDAFromInterSCTradeQty is counted and summed up to BAHrlyTradePlaceDAFromInterSCTradeQtyCount.

###### Where BAHrlyTradePlaceDAToInterSCTradeQtyCount

BAHrlyTradePlaceDAToInterSCTradeQtyCount Bmdh =  (

IF

BAHrlyTradePlaceDAToInterSCTradeQty BxswZKDmdh= 0

THEN

0

ELSE

1

Note: Each unique BAHrlyTradePlaceDAToInterSCTradeQty is counted and summed up to BAHrlyTradePlaceDAToInterSCTradeQtyCount.

##### FMMValidEnergyInterSCTradeCount

#### FMMValidEnergyInterSCTradeCount Bmdh =

BAHrlyTradePlaceFMMFromInterSCTradeQtyCount Bmdh+

BAHrlyTradePlaceFMMToInterSCTradeQtyCount Bmdh

###### BAHrlyTradePlaceFMMFromInterSCTradeQtyCount

#### BAHrlyTradePlaceFMMFromInterSCTradeQtyCount Bmdh = (

#### IF

#### BAHrlyTradePlaceFMMFromInterSCTradeQty BxswZKDmdh = 0

THEN

0

ELSE

1)

Note: Each unique BAHrlyTradePlaceFMMFromInterSCTradeQty is counted and summed up to BAHrlyTradePlaceFMMFromInterSCTradeQtyCount.

###### BAHrlyTradePlaceFMMToInterSCTradeQtyCount

#### BAHrlyTradePlaceFMMToInterSCTradeQtyCount Bmdh = (

#### IF

#### BAHrlyTradePlaceFMMToInterSCTradeQty BxswZKDmdh= 0

THEN

0

ELSE

1)

Note: Each unique BAHrlyTradePlaceFMMToInterSCTradeQty is counted and summed up to BAHrlyTradePlaceFMMToInterSCTradeQtyCount .

##### Where

#### IFMObligationInterSCTradeCount Bmdh = (IFMLoadUpliftObligationsInterSCTradeFromCount Bmdh + IFMLoadUpliftObligationsInterSCTradeToCount Bmdh)

###### Where

#### IF

#### IFMLoadUpliftObligationsInterSCTradeFrom Bsmdh = 0

THEN

IFMLoadUpliftObligationsInterSCTradeFromCount Bmdh = 0

ELSE

IFMLoadUpliftObligationsInterSCTradeFromCount Bmdh = 1

###### Where

IF

#### IFMLoadUpliftObligationsInterSCTradeTo Bsmdh = 0

THEN

IFMLoadUpliftObligationsInterSCTradeToCount Bmdh = 0

ELSE

IFMLoadUpliftObligationsInterSCTradeToCount Bmdh = 1

##### Where

BAValidASInterSCTradeCount Bmdh = BAHourlyTotalRegUpTradeCount Bmdh + BAHourlyTotalRegDownTradeCount Bmdh + BAHourlyTotalSpinTradeCount Bmdh + BAHourlyTotalNonSpinTradeCount Bmdh

###### Where

#### BAHourlyTotalNonSpinTradeCount Bmdh = (BAHourlyNonSpinFromTradeCount Bsmdh+ BAHourlyNonSpinToTradeCount Bsmdh)

###### And Where

#### BAHourlyTotalSpinTradeCount Bmdh = (BAHourlySpinFromTradeCount Bsmdh+ BAHourlySpinToTradeCount Bsmdh)

###### And where

#### BAHourlyTotalRegDownTradeCount Bmdh = (BAHourlyRegDownFromTradeCount Bsmdh+ BAHourlyRegDownToTradeCount Bsmdh)

###### And Where

#### BAHourlyTotalRegUpTradeCount Bmdh = (BAHourlyRegUpFromTradeCount Bsmdh+ BAHourlyRegUpToTradeCount Bsmdh)

###### And Where

IF

NonSpinToTradeMW BQ’smdh *=* 0

THEN

BAHourlyNonSpinToTradeCount Bsmdh *=* Sum(Q’)0

ELSE

BAHourlyNonSpinToTradeCount Bsmdh *=* Sum(Q’)1

###### 

###### And Where

IF

NonSpinFromTradeMW BQ’smdh= 0

THEN

BAHourlyNonSpinFromTradeCountBsmdh *=* Sum(Q’)0

ELSE

BAHourlyNonSpinFromTradeCountBsmdh = Sum(Q’) 1

###### And Where

IF

SpinToTradeMW BQ’smdh *=* 0

THEN

BAHourlySpinToTradeCountBsmdh = Sum(Q’) 0

ELSE

BAHourlySpinToTradeCountBsmdh *=*Sum(Q’)1

###### And Where

###### IF

SpinFromTradeMW BQ’smdh *=* 0

THEN

BAHourlySpinFromTradeCount Bsmdh = Sum(Q’) 0

ELSE

BAHourlySpinFromTradeCountBsmdh = Sum(Q’) 1

###### And Where

IF

RegDownToTradeMW BQ’smdh = 0

THEN

BAHourlyRegDownToTradeCountBsmdh = Sum(Q’)0

ELSE

BAHourlyRegDownToTradeCountBsmdh = Sum(Q’) 1

###### And Where

IF

RegDownFromTradeMW BQ’smdh = 0

THEN

BAHourlyRegDownFromTradeCountBsmdh = Sum(Q’) 0

ELSE

BAHourlyRegDownFromTradeCountBsmdh = Sum(Q’) 1

###### And Where

IF

RegUpToTradeMW BQ’smdh= 0

THEN

BAHourlyRegUpToTradeCountBsmdh = Sum(Q’) 0

ELSE

BAHourlyRegUpToTradeCountBsmdh = Sum(Q’)1

###### And Where

IF

RegUpFromTradeMW BQ’smdh= 0

THEN

BAHourlyRegUpFromTradeCount Bsmdh= Sum(Q’) 0

ELSE

BAHourlyRegUpFromTradeCountBsmdh= Sum(Q’)1

## Outputs

| Output Req ID | Name | Description |
| --- | --- | --- |
|  | In addition to any outputs listed below, all inputs shall be included as outputs. |  |
| 1 | GMCForwardSchedulingServicesInterSCTradesSettlementAmount Bmd | The GMC Forward Scheduling 1st Services Settlement Amount for Business Associate B. |
| 2 | TotalISTScheduleCount Bmd | The count of all hourly Inter SC Trade Schedules for Business Associate B. |
| 3 | DAValidEnergyInterSCTradeCount Bmdh | The count of all DA valid Energy Inter SC Trade Schedules for Business Associate B. |
| 4 | FMMValidEnergyInterSCTradeCount Bmdh | The count of all valid FMM Energy Inter SC Trade Schedules for Business Associate B. |
| 5 | IFMObligationInterSCTradeCount Bmdh | The count of all hourly IFM Obligation Inter SC Trade Schedules for Business Associate B. |
| 6 | BAHrlyTradePlaceDAToInterSCTradeQtyCount Bmdh | Total Hourly Day Ahead inter SC Trade To Quantity Count for Business Associate. |
| 7 | BAHrlyTradePlaceDAFromInterSCTradeQtyCount Bmdh | Total Hourly Day Ahead Inter SC Trade From Quantity Count for Business Associate B. |
| 8 | BAHrlyTradePlaceFMMFromInterSCTradeQtyCount Bmdh | Total Hourly FMM Inter SC Trade To Quantity Count for Business Associate B. |
| 9 | BAHrlyTradePlaceFMMToInterSCTradeQtyCount Bmdh | Total Hourly FMM Inter SC Trade From Quantity Count for Business Associate B. |
| 10 | IFMLoadUpliftObligationsInterSCTradeFromCount Bmdh | Total Hourly IFM Load Obligation Inter SC Trade From Quantity Count for Business Associate B. |
| 11 | IFMLoadUpliftObligationsInterSCTradeToCount Bmdh | Total Hourly IFM Load Obligation Inter SC Trade To Quantity Count for Business Associate B. |
| 12 | BAValidASInterSCTradeCount Bmdh | Total BA Hourly Ancillary Services Trade Count for Business Associate B. |
| 13 | BAHourlyTotalRegUpTradeCount Bmdh | Total Hourly Regulation Up Trade Count for Business Associate B. |
| 14 | BAHourlyTotalRegDownTradeCount Bmdh | Total Hourly Regulation Down Trade Count for Business Associate B. |
| 15 | BAHourlyTotalSpinTradeCount Bmdh | Total Hourly Spin Trade Count for Business Associate B. |
| 16 | BAHourlyTotalNonSpinTradeCount Bmdh | Total Hourly Non-Spin Trade Count for Business Associate B. |
| 17 | BAHourlyNonSpinFromTradeCount Bsmdh | Hourly Non-Spin From Trade Count for Business Associate B, IST ID s. |
| 18 | BAHourlyNonSpinToTradeCount Bsmdh | Hourly Non-Spin To Trade Count for Business Associate B, IST ID s. |
| 19 | BAHourlyRegDownFromTradeCount Bsmdh | Hourly Reg Down From Trade Count for Business Associate B, IST ID s. |
| 20 | BAHourlyRegDownToTradeCount Bsmdh | Hourly Reg Down To Trade Count for Business Associate B, IST ID s. |
| 21 | BAHourlyRegUpFromTradeCount Bsmdh | Hourly Reg Up From Trade Count for Business Associate B, IST ID s. |
| 22 | BAHourlyRegUpToTradeCount Bsmdh | Hourly Reg Up To Trade Count for Business Associate B, IST ID s. |
| 23 | BAHourlySpinToTradeCountBsmdh | Hourly Spin To Trade Count for Business Associate B, IST ID s. |
| 24 | BAHourlySpinFromTradeCount Bsmdh | Hourly Spin From Trade Count for Business Associate B, IST ID s. |

# Charge Code Effective Date

| Charge Code/  Pre-calc Name | Document Version | Effective Start Date | Effective End Date | Update Version Type |
| --- | --- | --- | --- | --- |
| CC 4512 – GMC Forward Scheduling Inter-SC Trades | 5.0 | 04/01/09 | 12/31/11 | Documentation Only |
| CC 4512 – GMC Inter-Scheduling Coordinator Trade Transaction Fee | 5.0a | 01/01/12 | 4/30/14 | Documentation Only |
| CC 4512 – GMC Inter-Scheduling Coordinator Trade Transaction Fee | 5.1 | 5/1/14 | 4/30/2026 | Configuration Changes |
| CC 4512 – GMC Inter-Scheduling Coordinator Trade Transaction Fee | 5.2 | 5/1/2026 | Open | Configuration impacted |